

Purchasing Receipts

PO No	Supplier	Line Item No	Rel No	Terms	Purchased Item	Description	For Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Serial No	Status	Receive Date	Price/Unit	Aging Days	P C
PO039038	TWM001-VU	1	1	Net 30	M304TR0.750W.049	304 Round Tube .750 X .049W : MATERIAL: AISI 304/316 SS SEAMLESS ROUND TUBING AS PER ASTM A213 OR ASME SA213 OR ASTM A269 receive ft				120	2/23/2018	120		S044568	Stock	2/22/2018	\$ 2.10 / ft	0	
		2			M6061T6T1.000W.188	6061T6 Round Tube 1.00 X .188W : MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING AS PER WW-T-700/8 OR QQ-A-200/8 OR QQ-A-225/8 OR AMS 4080 OR AMS 40 82 OR AMS 4083 OR ASTM B210 OR ASTM B241 receive ft				24		24		S044569	Stock	2/22/2018	\$ 6.75 / ft	0	
		3			M6061T6T5.000W.125	6061-T6 Tube 5.00 X .125W : MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING AS PER WW-T-700/8 OR QQ-A-200/8 OR QQ-A-225/8 OR AMS 4080 OR AMS 40 82 OR AMS 4083 OR ASTM B210 OR ASTM B241 receive ft				12		12		S044570	Stock	2/22/2018	\$ 10.00 / ft	0	
		4			M6061T6T0.625W.065	6061-T6 Round Tube .625 X .065W : MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING AS PER WW-T-700/8 OR QQ-A-200/8 OR QQ-A-225/8 OR AMS 4080 OR AMS 40 82 OR AMS 4083 OR ASTM B210 OR ASTM B241 receive ft				96		96		S044571	Stock	2/22/2018	\$ 3.15 / ft	0	
		5			M6061T6T2.00W.125	6061T6 Round Tube 2.00 X .125W : MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING AS PER WW-T-700/8 OR QQ-A-200/8 OR QQ-A-225/8 OR AMS 4080 OR AMS 40 82 OR AMS 4083 OR ASTM B210 OR ASTM B241 receive ft				12		12		S044572	Stock	2/22/2018	\$ 8.50 / ft	0	
		6			M4130NT0.750W.049	4130 Round Tube .750 X .049W : MATERIAL: AISI 4130N STEEL TUBING AS PER MIL-T-6736 OR AMS 6371/6360/6361/6362 6373/6374 receive ft				20		24		S044573	Stock	2/22/2018	\$ 6.00 / ft	0	
		7			M6081T6T0.500W.058	6061-T6 Round Tube .500 X .058W : MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING AS PER WW-T-700/8 OR QQ-A-200/8 OR QQ-A-225/8 OR AMS 4080 OR AMS 40 82 OR AMS 4083 OR ASTM B210 OR ASTM B241 receive ft				60		60		S044574	Stock	2/22/2018	\$ 1.75 / ft	0	
Total:										344		348							



O'Neal High-Performance Metals Group

Customer		DART AEROSPACE LTD
PO Number		PO039038
TW Order Number		60650079
Customer Number		1203820

Order Documentation:

- Packing List**
- Material Test Report**



O'Neal High-Performance Metals Group



Packing Slip

ORDER NO.: 60650079 FROM: CRAN PAGE 1

CUST NUMBER: 1203820 NET WGT: 81.704 REQ.DATE: 02/23/18 CONFIRMED
SOLD TO: SHIP TO:
DART AEROSPACE LTD DART AEROSPACE LTD
1270 ABERDEEN ST 1270 ABERDEEN ST
HAWKESBURY ON HAWKESBURY ON
CANADA ONTARIO CANADA
CN K6A 1K7 CN K6A 1K7

SALESPERSON: DONNA SMALLEY SHIP BY: 02/16/18
TERMS: NET 30 DAYS VIA: COMMON CARRIER
F.O.B.: SHIPPING POINT FREIGHT: PREPAID
CUST ORD NO.: PO039038 RELEASE NO.:
RECEIVING PHONE:

LINE ITEM DESCRIPTION WIDTH LENGTH
0001 36860 SMLS CD 304/L A269 3/4 OD X .049 WA 20' CL

CLN#	ORD QTY	INVOICE QTY	SHIPPED QTY	WT	PCS
	120.000 FT	120.000 FT	120.000 FT	44.006	

** 1 TEST REPORTS REQUIRED **
** 1 CERTS REQUIRED **

ECCN: 2B999.g Export License: NLR Expiration Date: 0/00/00
PO:49339141 HT:YX1508708 PC: 6 CUSTOMER QTY: UOM
MLT:CHINA MFG:CHINA SLB/CL:2-115

0002 42558 D6061-T6 5/8 OD X .065 WA 12 FT ML

CLN#	ORD QTY	INVOICE QTY	SHIPPED QTY	WT	PCS
	96.000 FT	96.000 FT	96.000 FT	12.856	

** 1 TEST REPORTS REQUIRED **
** 1 CERTS REQUIRED **

ECCN: EAR99 Export License: NLR Expiration Date: 0/00/00
PO:49372137 HT:FQ02459070001 PC: 8 CUSTOMER QTY: UOM
MLT:UNITED STATES MFG:UNITED STATES SLB/CL:223623

0003 44622 D6061-T6 2 OD X .125 WA 12 FT ML

CLN#	ORD QTY	INVOICE QTY	SHIPPED QTY	WT	PCS
	12.000 FT	12.000 FT	12.000 FT	10.390	

** 1 TEST REPORTS REQUIRED **
** 1 CERTS REQUIRED **

ECCN: EAR99 Export License: NLR Expiration Date: 0/00/00
PO:49371766 HT:1403313 PC: 1 CUSTOMER QTY: UOM
MLT:GERMANY MFG:GERMANY SLB/CL:65598/100

THANK YOU FOR THIS ORDER

TERMS AND CONDITIONS APPLICABLE TO THE SALE OF THESE
PRODUCTS ARE SET FORTH ON OUR WEBSITE FOR YOUR CAREFUL
REVIEW.

<http://www.twmetals.com/invoice-terms.html>



O'Neal High-Performance Metals Group



Packing Slip

ORDER NO.: 60650079

FROM: CRAN

PAGE 2

CUST NUMBER: 1203820 NET WGT: 81.704 REQ.DATE: 02/23/18 CONFIRMED
 SOLD TO: SHIP TO:
 DART AEROSPACE LTD DART AEROSPACE LTD
 1270 ABERDEEN ST 1270 ABERDEEN ST
 HAWKESBURY ON HAWKSURY ON
 CANADA ONTARIO CANADA
 CN K6A 1K7 CN K6A 1K7

SALESPERSON: DONNA SMALLEY SHIP BY: 02/16/18
 TERMS: NET 30 DAYS VIA: COMMON CARRIER
 F.O.B.: SHIPPING POINT FREIGHT: PREPAID
 CUST ORD NO.: P0039038 RELEASE NO.:
 RECEIVING PHONE:

LINE ITEM DESCRIPTION WIDTH LENGTH
 0004 33047 CDS 4130 6736 3/4 X .049 17/24 FT

CLN#	ORD QTY	INVOICE QTY	SHIPPED QTY	WT	PCS
	20.000 FT	23.917 FT	23.917 FT	8.771	

** 1 TEST REPORTS REQUIRED **
 ** 1 CERTS REQUIRED **

ECCN: 9A991.d Export License: NLR Expiration Date: 0/00/00
 PO:49368990 HT:602196 PC: 1 CUSTOMER QTY: UOM
 MLT:GERMANY MFG:GERMANY SLB/CL:1637185

0005 42276 D6061-T6 1/2 OD X .058 WA 12 FT ML

CLN#	ORD QTY	INVOICE QTY	SHIPPED QTY	WT	PCS
	60.000 FT	60.000 FT	60.000 FT	5.681	

** 1 TEST REPORTS REQUIRED **
 ** 1 CERTS REQUIRED **

ECCN: EAR99 Export License: NLR Expiration Date: 0/00/00
 PO:49378297 HT:F002542390002 PC: 5 CUSTOMER QTY: UOM
 MLT:UNITED STATES MFG:UNITED STATES SLB/CL:224471

BROKERS KUEHNE AND NAGEL LTD

AREA	TYPE OF PKG	PKGS	GRS WEIGHT	WIDTH	LENGTH	HGHT
NEW PEN CARTON		1.000	77.776	3.0000	293.0000	3
Orders In Package - 1		Box No -	TWPK18003366			
NEW PEN CARTON		1.000	38.927	4.0000	150.0000	4
Orders In Package - 1		Box No -	TWPK18003367			
		2.000	116.703			

BY: Tom Weaver

THANK YOU FOR THIS ORDER

TERMS AND CONDITIONS APPLICABLE TO THE SALE OF THESE PRODUCTS ARE SET FORTH ON OUR WEBSITE FOR YOUR CAREFUL REVIEW.
<http://www.twmetals.com/invoice-terms.html>



O'Neal High-Performance Metals Group



Packing Slip

ORDER NO.: 60650079

FROM: CRAN

PAGE 3

CUST NUMBER: 1203820
SOLD TO:
DART AEROSPACE LTD
1270 ABERDEEN ST
HAWKESBURY ON
CANADA

NET WGT:

CN K6A 1K7

81.704 REQ.DATE: 02/23/18 CONFIRMED
SHIP TO:
DART AEROSPACE LTD
1270 ABERDEEN ST
HAWKSURY ON
ONTARIO CANADA

CN K6A 1K7

SALESPERSON: DONNA SMALLEY
TERMS: NET 30 DAYS
F.O.B.: SHIPPING POINT
CUST ORD NO.: PO039038

SHIP BY: 02/16/18
VIA: COMMON CARRIER
FREIGHT: PREPAID
RELEASE NO.:
RECEIVING PHONE:

WIDTH LENGTH
UNLOAD TYPE: NONE SPECIFIED

LINE ITEM DESCRIPTION
RT 000-

DATE SHIPPED _____

DATE FILLED _____

1
THANK YOU FOR THIS ORDER

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PRODUCTS ARE SET FORTH ON OUR WEBSITE FOR YOUR CAREFUL
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O'Neal High-Performance Metals Group



**Packing
Slip**

ORDER NO.: 60650079

FROM: CRAN

PAGE 4

CUST NUMBER: 1203820	NET WGT: 81.704	REQ.DATE: 02/23/18	CONFIRMED
SOLD TO:	SHIP TO:		
DART AEROSPACE LTD	DART AEROSPACE LTD		
1270 ABERDEEN ST	1270 ABERDEEN ST		
HAWKESBURY ON	HAWKESBURY ON		
CANADA	CN K6A 1K7	ONTARIO CANADA	CN K6A 1K7

SALESPERSON: DONNA SMALLEY	SHIP BY: 02/16/18
TERMS: NET 30 DAYS	27 ENGLEHARD DRIVE
F.O.B.: SHIPPING POINT	MONROE TWP NJ 08831
CUST ORD NO.: PO039038	
VIA: COMMON CARRIER	
FREIGHT: PREPAID	
RELEASE NO.:	
RECEIVING PHONE:	

"TW Metals MSDS data is available on our web site at www.twmetals.com. MSDS data can be found under the Technical Resources Tab, Product Statistics & Data and the TW Metals MSDS's heading. If you do not have web site access you may telephone 610-458-1300 and we will mail or fax a copy of our current MSDS data to your location."

"CERTIFICATE OF CONFORMANCE"

"TW Metals certifies that the material supplied on this purchase order and contained in the heat/lot number referenced above has been manufactured, inspected, and tested in accordance with the material specification. These records are on file at TW Metals. Packaging material for shipments to Europe and China consists of manufactured wood products and complies with the European emergency measures for coniferous non-manufactured wood packing material"

Electronically Generated Certificate-Valid without signature Date: 2/15/18

These commodities have been exported from the United States in accordance with the U.S. export control laws, export administrations regulations. Diversion contrary to U.S. law prohibited.

THANK YOU FOR THIS ORDER

TERMS AND CONDITIONS APPLICABLE TO THE SALE OF THESE PRODUCTS ARE SET FORTH ON OUR WEBSITE FOR YOUR CAREFUL REVIEW.
<http://www.twmetals.com/invoice-terms.html>



10404-0 GRANITE STREET
 CHARLOTTE NC 28273
 Tel: 800-203-8000
 FAX: 704 588 4116

Invoice#: 20191979
 Cust. PO#: P0039038
 Incoterms: SHIPPING POINT
 Frt. Terms: PREPAID
 Ship Via: COMMON CARRIER

COMMERCIAL INVOICE

Sold To: DART AEROSPACE LTD 1270 ABERDEEN ST HAWKESBURY ON CANADA CN K6A 1K7 C Contact: CHANTAL 16136321053	Invoice Date: 2/16/18
	Ship Date: 2/16/18
	Payment Terms: NET 30 DAYS
	Ship To/Final Destination: DART AEROSPACE LTD 1270 ABERDEEN ST HAWKESBURY ON ONTARIO CANADA CN K6A 1K7
Freight Forwarder/Intermediate Ship To:	

ITEM# / LINE#	DESCRIPTION	QUANTITY	UNIT VALUE	SUBTOTAL
45542	E6061-T6511 B241 5 OD X .125	12.000 FT	\$ 10.0000 FT	\$ 120.00
1	ALUMINUM TUBE ROUND	0 IN		
		1.000 PC		
	PART NUMBER:			
	ECCN: EAR99			
	SCHEDULE B:7608.20.0030			
	ALUM PIPE/TUBE - SEAMLESS			
	NET WGT: 27.012 LBS			
	COUNTRY OF MFG: UNITED STATES			
	QUANTITY AND TYPE OF BOXES:			
	1 REDDICRATE			
	150.0000 X 6.0000 X 6.0000			
	TOTAL WGT: 27.012 LBS			
	GROSS WGT: 35.000 LBS			
<p align="center">EXPORT LICENSE NUMBER: NLR EXPIRATION DATE: 00/00/00</p>				
<p>TW METALS, INC CERTIFIES THAT THE COUNTRY OR COUNTRIES OF MANUFACTURE INDICATED ABOVE IS TRUE AND CORRECT AS CONTAINED IN THE RECORDS OF TW METALS, INC.</p> <p>THESE ITEMS ARE CONTROLLED BY THE U.S. GOVERNMENT AND AUTHORIZED FOR EXPORT ONLY TO THE COUNTRY OF ULTIMATE DESTINATION FOR USE BY THE ULTIMATE CONSIGNEE OR END-USER(S) HEREIN IDENTIFIED. THEY MAY NOT BE RESOLD, TRANSFERRED, OR OTHERWISE DISPOSED OF, TO ANY OTHER COUNTRY OR TO ANY PERSON OTHER THAN THE AUTHORIZED ULTIMATE CONSIGNEE OR END-USER(S), EITHER IN THEIR ORIGINAL FORM OR AFTER BEING INCORPORATED INTO OTHER ITEMS, WITHOUT FIRST OBTAINING APPROVAL FROM THE U.S. GOVERNMENT OR AS OTHERWISE AUTHORIZED BY U.S. LAW AND REGULATIONS.</p>				<p align="right">Sales Tax .00</p> <p align="right">Payable in US Dollars 120.00</p>
Page 1				



10404-0 GRANITE STREET
CHARLOTTE NC 28273
Tel: 800-203-8000
FAX: 704 588 4116

Invoice#: 20191979
Cust. PO#: PO039038
Incoterms: SHIPPING POINT
Frt. Terms: PREPAID
Ship Via: COMMON CARRIER

COMMERCIAL INVOICE

Sold To: DART AEROSPACE LTD 1270 ABERDEEN ST HAWKESBURY ON CANADA CN K6A 1K7 C Contact: CHANTAL 16136321053	Invoice Date: 2/16/18
	Ship Date: 2/16/18
Freight Forwarder/Intermediate Ship To:	Payment Terms: NET 30 DAYS
	Ship To/Final Destination: DART AEROSPACE LTD 1270 ABERDEEN ST HAWKESBURY ON ONTARIO CANADA CN K6A 1K7

ITEM#/LINE#	DESCRIPTION	QUANTITY	UNIT	VALUE	SUBTOTAL
45542	E6061-T6511 B241 5 OD X .125	12.000	FT	\$ 10.0000 FT	\$ 120.00
1	ALUMINUM TUBE ROUND	0	IN		
	PART NUMBER:	1.000	PC		
	ECCN: EAR99				
	SCHEDULE B: 7608.20.0030				
	ALUM PIPE/TUBE - SEAMLESS				
	NET WGT: 27.012 LBS				
	COUNTRY OF MFG: UNITED STATES				
	QUANTITY AND TYPE OF BOXES:				
	1 REDDICRATE				
	150.0000 X 6.0000 X 6.0000				
	TOTAL WGT: 27.012 LBS				
	GROSS WGT: 35.000 LBS				
EXPORT LICENSE NUMBER: NLR					
EXPIRATION DATE: 00/00/00					
TW METALS, INC CERTIFIES THAT THE COUNTRY OR COUNTRIES OF MANUFACTURE INDICATED ABOVE IS TRUE AND CORRECT AS CONTAINED IN THE RECORDS OF TW METALS, INC.					
THESE ITEMS ARE CONTROLLED BY THE U.S. GOVERNMENT AND AUTHORIZED FOR EXPORT ONLY TO THE COUNTRY OF ULTIMATE DESTINATION FOR USE BY THE ULTIMATE CONSIGNEE OR END-USER(S) HEREIN IDENTIFIED. THEY MAY NOT BE RESOLD, TRANSFERRED, OR OTHERWISE DISPOSED OF, TO ANY OTHER COUNTRY OR TO ANY PERSON OTHER THAN THE AUTHORIZED ULTIMATE CONSIGNEE OR END-USER(S), EITHER IN THEIR ORIGINAL FORM OR AFTER BEING INCORPORATED INTO OTHER ITEMS, WITHOUT FIRST OBTAINING APPROVAL FROM THE U.S. GOVERNMENT OR AS OTHERWISE AUTHORIZED BY U.S. LAW AND REGULATIONS.					
Payable in US Dollars				Sales Tax	.00
					120.00



PAGE 2

CN K6A 1K7

SHIP BY: 02/16/18
10404-0 GRANITE STREET
CHARLOTTE NC 28273

TERMS AND CONDITIONS APPLICABLE TO THE SALE OF THESE
PRODUCTS ARE SET FORTH ON OUR WEBSITE FOR YOUR CAREFUL
REVIEW.
<http://www.twmetals.com/invoice-terms.html>



O'Neal High-Performance Metals Group



Packing Slip

ORDER NO.: 80913050

FROM: CHIC

PAGE 1

CUST NUMBER: 1203820 NET WGT: 13.533 REQ.DATE: 02/23/18 CONFIRMED
SOLD TO: SHIP TO:
DART AEROSPACE LTD DART AEROSPACE LTD
1270 ABERDEEN ST 1270 ABERDEEN ST
HAWKESBURY ON HAWKESBURY ON
CANADA CN K6A 1K7 ONTARIO CANADA CN K6A 1K7

SALESPERSON: DONNA SMALLEY SHIP BY: 02/16/18
TERMS: NET 30 DAYS VIA: COMMON CARRIER
F.O.B.: SHIPPING POINT FREIGHT: PREPAID
CUST ORD NO.: PO039038 RELEASE NO.:
RECEIVING PHONE:

LINE ITEM DESCRIPTION WIDTH LENGTH
0001 43377 D6061-T6 1 OD X .188 WA 12 FT ML

CLN#	ORD QTY	INVOICE QTY	SHIPPED QTY	WT	PCS
	24.000 FT	24.000 FT	24.000 FT	13.533	2

** 1 TEST REPORTS REQUIRED **
** 1 CERTS REQUIRED **

ECCN: EAR99 Export License: NLR Expiration Date: 0/00/00
PO:49383412 HT:002608730001 PC: 2 CUSTOMER QTY: UOM
MLT:UNITED STATES MFG:UNITED STATES SLB/CL:225209

BROKERS KUEHNE AND NAGEL LTD

AREA	TYPE OF PKG	PKGS	GRS WEIGHT	WIDTH	LENGTH	HGHT
YRC	CARTON	1.000	19.000	3.0000	150.0000	3
		1.000	19.000			

BY: LM
RT 000-

UNLOAD TYPE: NONE SPECIFIED

DATE SHIPPED _____

DATE FILLED _____

THANK YOU FOR THIS ORDER

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REVIEW.
<http://www.twmetals.com/invoice-terms.html>



O'Neal High-Performance Metals Group



Packing Slip

ORDER NO.: 80913050

FROM: CHIC

PAGE 2

CUST NUMBER: 1203820 NET WGT:

SOLD TO:

DART AEROSPACE LTD

1270 ABERDEEN ST

HAWKESBURY ON

CANADA

CN K6A 1K7

13.533 REQ.DATE: 02/23/18 CONFIRMED

SHIP TO:

DART AEROSPACE LTD

1270 ABERDEEN ST

HAWKESBURY ON

ONTARIO CANADA

CN K6A 1K7

SALESPERSON:

DONNA SMALLEY

TERMS:

NET 30 DAYS

F.O.B.:

SHIPPING POINT

CUST ORD NO.:

PO039038

VIA:

COMMON CARRIER

FREIGHT:

PREPAID

RELEASE NO.:

RECEIVING PHONE:

SHIP BY:

02/16/18

235 TUBEWAY

CAROL STREAM

IL 60188

"TW Metals MSDS data is available on our web site at www.twmetals.com. MSDS data can be found under the Technical Resources Tab, Product Statistics & Data and the TW Metals MSDS's heading. If you do not have web site access you may telephone 610-458-1300 and we will mail or fax a copy of our current MSDS data to your location."

"CERTIFICATE OF CONFORMANCE"

"TW Metals certifies that the material supplied on this purchase order and contained in the heat/lot number referenced above has been manufactured, inspected, and tested in accordance with the material specification. These records are on file at TW Metals. Packaging material for shipments to Europe and China consists of manufactured wood products and complies with the European emergency measures for coniferous non-manufactured wood packing material"

Authorized Test Report Clerk

Luziraida Matos

Date: 2/16/18

These commodities have been exported from the United States in accordance with the U.S. export control laws, export administrations regulations. Diversion contrary to U.S. law prohibited.

THANK YOU FOR THIS ORDER

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<http://www.twmetals.com/invoice-terms.html>



235 TUBEWAY
CAROL STREAM IL 60188
Tel: 630-690-0110
FAX: 16306902105

Invoice#: 80913050
Cust. PO#: PO039038
Incoterms: SHIPPING POINT
Frt. Terms: PREPAID
Ship Via: COMMON CARRIER

COMMERCIAL INVOICE

Sold To: DART AEROSPACE LTD 1270 ABERDEEN ST HAWKESBURY ON CANADA Contact: CHANTAL 16136321053	Invoice Date: 2/16/18 Ship Date: 2/16/18 Payment Terms: NET 30 DAYS Ship To/Final Destination: DART AEROSPACE LTD 1270 ABERDEEN ST HAWKESBURY ON ONTARIO CANADA CN K6A 1K7
Freight Forwarder/Intermediate Ship To:	

ITEM# / LINE#	DESCRIPTION	QUANTITY	UNIT VALUE	SUBTOTAL
43377	D6061-T6 1 OD X .188 WA	24.000 FT	\$ 6.7500 FT	\$ 162.00
1	ALUMINUM TUBE ROUND	0 IN		
	PART NUMBER:	2.000 PC		
	ECCN: EAR99			
	SCHEDULE B:7608.20.0030			
	ALUM PIPE/TUBE - SEAMLESS			
	NET WGT: 13.533 LBS			
	COUNTRY OF MFG: UNITED STATES			.00
	FREIGHT CHARGES			
	QUANTITY AND TYPE OF BOXES:			
	1 CARTON			
	150.0000 X 3.0000 X 3.0000			
	TOTAL WGT: 19.000 LBS			
	GROSS WGT: 19.000 LBS			
EXPORT LICENSE NUMBER: NLR				
EXPIRATION DATE: 00/00/00				
TW METALS, INC CERTIFIES THAT THE COUNTRY OR COUNTRIES OF MANUFACTURE INDICATED ABOVE IS TRUE AND CORRECT AS CONTAINED IN THE RECORDS OF TW METALS, INC.				
THESE ITEMS ARE CONTROLLED BY THE U.S. GOVERNMENT AND AUTHORIZED FOR EXPORT ONLY TO THE COUNTRY OF ULTIMATE DESTINATION FOR USE BY THE ULTIMATE CONSIGNEE OR END-USER(S) HEREIN IDENTIFIED. THEY MAY NOT BE RESOLD, TRANSFERRED, OR OTHERWISE DISPOSED OF, TO ANY OTHER COUNTRY OR TO ANY PERSON OTHER THAN THE AUTHORIZED ULTIMATE CONSIGNEE OR END-USER(S), EITHER IN THEIR ORIGINAL FORM OR AFTER BEING INCORPORATED INTO OTHER ITEMS, WITHOUT FIRST OBTAINING APPROVAL FROM THE U.S. GOVERNMENT OR AS OTHERWISE AUTHORIZED BY U.S. LAW AND REGULATIONS.				
Sales Tax				.00
Payable in US Dollars				162.00

Luzaida Matos
02/16/18



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

PO039038

Supplier: TWM001-VU
TW Metals
PO Box 933014
Atlanta, GA 31193-3014 USA
Phone: 585 768 5600
Fax: 585 768 5601

PO No: PO039038

PO Date: 2/14/18

Due Date: 2/23/18

Purchase Order

Revision:

Revision Date:

Ship-To Contact: Lavoie, Chantal
Phone: clavoie@dartaero.com

E-MAILED
FEB 14 2018

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground

Pymt Terms: Net 30

Freight Terms:

Special Comments:

Items											
Line Item	Part	Supplier Part No	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price	
1	M304TR0.750W.049		304 Round Tube .750 X .049W : MATERIAL: AISI 304/316 SS SEAMLESS ROUND TUBING AS PER ASTM A213 OR ASME SA213 OR ASTM A269 receive ft	Firmed	2/23/18	120 ft	0 ft	120 ft	\$2.10/ft	\$252.00	DAS 11 9-89 FEB 22 2018
2	M6061T6T1.000W.188		6061T6 Round Tube 1.00 X .188W : MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING AS PER WW-T-700/8 OR QQ-A-200/8 OR QQ-A-225/8 OR AMS 4080 OR AMS 40 82 OR AMS 4083 OR ASTM B210 OR ASTM B241 receive ft	Firmed	2/23/18	24 ft	0 ft	24 ft	\$6.75/ft	\$162.00	DAS 11 9-89 FEB 22 2018
3	M6061T6T5.000W.125		6061-T6 Tube 5.00 X.125W : MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING AS PER WW-T-700/8 OR QQ-A-200/8 OR QQ-A-225/8 OR AMS 4080 OR AMS 40 82 OR AMS 4083 OR ASTM B210 OR ASTM B241 receive ft	Firmed	2/23/18	12 ft	0 ft	12 ft	\$10.00/ft	\$120.00	DAS 11 9-89 FEB 22 2018

PURCHASE ORDER

Items												
Line Item	Part	Supplier Part No	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price		
4	M6061T6T0.625W.065	✓	6061-T6 Round Tube .625 X.065W : MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING AS PER WW-T-700/8 OR QQ-A-200/8 OR QQ-A-225/8 OR AMS 4080 OR AMS 40 82 OR AMS 4083 OR ASTM B210 OR ASTM B241 receive ft	Firmed	2/23/18	96 ft	0 ft	96 ft	\$3.15/ft	\$302.40	96' FEB 22 2018 DAS 11 9-89	
5	M6061T6T2.00W0.125	✓	6061T6 Round Tube 2.00 X.125W : MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING AS PER WW-T-700/8 OR QQ-A-200/8 OR QQ-A-225/8 OR AMS 4080 OR AMS 40 82 OR AMS 4083 OR ASTM B210 OR ASTM B241 receive ft	Firmed	2/23/18	12 ft	0 ft	12 ft	\$8.50/ft	\$102.00	12' FEB 22 2018 DAS 11 9-89	
6	M4130NT0.750W.049	✓	4130 Round Tube .750 X.049W : MATERIAL: AISI 4130N STEEL TUBING AS PER MIL-T-6736 OR AMS 6371/6360/6361/6362 6373/6374 receive ft	Firmed	2/23/18	20 ft	0 ft	20 ft	\$6.00/ft	\$120.00	24' FEB 22 2018 DAS 11 9-89	
7	M6061T6T0.500W.058	✓	6061-T6 Round Tube .500 X.058W : MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING AS PER WW-T-700/8 OR QQ-A-200/8 OR QQ-A-225/8 OR AMS 4080 OR AMS 40 82 OR AMS 4083 OR ASTM B210 OR ASTM B241 receive ft	Firmed	2/23/18	60 ft	0 ft	60 ft	\$1.75/ft	\$105.00	60' FEB 22 2018 DAS 11 9-89	
Grand Total:											\$1,163.40	

Order Notes

Procurement Quality Clauses

A005 right of entry
 A012 chemical and physical test report
 A016 personnel qualification
 A017 raw material identification (as applicable)
 A026 certification of material conformance
 A041 quality management system
 A042 dart notification by supplier
 A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 2/14/18 9:57 AM dart.lavoie.chantal

PUFA™

Producer of Premium Stainless Steel Seamless Tubes

MILL TEST REPORT

Purchaser.: TW METALS-Cranbury				Certificate No.: 16-3-175					
Contract No.: TWM P.O.No.: M49339141				Date of Issue.: 2016.3.31					
Commodity: Stainless Steel Seamless Tubes				Specifications: ASTM A213-15c/ASME SA213-15/ASTM A269-15a EAW					
Process: Cold Drawn				Delivery Condition: OD Polished to 240 Grit					
Steel Grade	Heat Number	Lot Number	Dimensions				Quantity		
TP304/TP304L	YX1508-708	2-115	3/4" x 0.049" x 20'				Pieces	Feet	
							250	5,000	
Chemical Composition by Weight (%)									
Element	C	Mn	P	S	Si	Cr	Ni	Mo	Co
Requirements	≤0.035	≤2.00	≤0.045	≤0.030	≤1.00	18.00-20.00	8.00-12.00	-	-
Ladle Analysis	0.021	0.68	0.033	0.002	0.26	18.35	8.05	-	-
Product Analysis	0.019	0.76	0.032	0.006	0.27	18.59	8.28	-	-
Mechanical Properties									
Test Item	Elongation (% in 2")		Tensile Strength (PSI)			Yield Strength (PSI)			
			Rm			Rp / 0.2%			
Requirements	≥35		≥75,000			≥30,000			
Test Results	61/62		93,000/94,000			40,000/41,000			
Test Item	Reduction of Area Z (%)	Hardness	Cold Bend Test	Flaring Test	Flattening Test	Flange Test	P.M.I. Test		
Requirements	-	HRB≤80	-	22%	e=0.09	-	-		
Test Results	-	76/78	-	Passed	Passed	-	OK		
Test Item	Eddy Current Test	Air Underwater Pressure Test	Ultrasonic Test	Intergranular Corrosion Test	Macroscopic Inspection				
Requirements	ASTM E 426	-	-	ASTM A262 E	End Cut	Appearance			
Test Results	Passed	-	-	OK	OK	OK			

ISO 9001:2008 Certified by Intertek 110703068

PED Certified by SZUTEST 2195-PED-1526002

Additional Remarks:

- (1) All tubes annealed to above 1900 Deg F and water quenched below 800 Deg F in 3 minutes
- (2) All tubes tested per ASTM A1016-15
- (3) Materials is NACE MR0103-2007 compliant (per Section 2.5)
- (4) Materials is NACE MR0175/ISO 15156-2003 compliant (per Section 4.2.1)
- (5) In Compliance with EN 10204-3.1
- (6) In Compliance with RoHS Stipulation
- (7) No weld repair performed
- (8) Free from mercury contamination
- (9) Free from radioactive contamination
- (10) Billets melt and pipes/tubes manufactured in China
- (11) All tubes 100% PMI tested
- (12) All tubes 100% Eddy Current tested

CANNOT CERTIFY COMPLIANCE
FAR BAA / DFARS BAA / FAR TAA



By:

James Shi

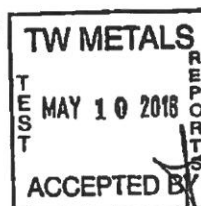
James Shi / Manager

Quality Control Department

We hereby certify that this report is true and correct.

Shanghai Pufa Stainless Steel Pipe Factory

No. 59, Shuangye Road, Wanggang, New Pudong District, Shanghai, China



KAISER ALUMINUM FABRICATED PRODUCTS

Best in Class

CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

KAISER ALUMINUM
FABRICATED PRODUCTS, LLC
6573 W. WILLIS ROAD
CHANDLER, AZ 85226

CUSTOMER PO NUMBER: M49372137-1		CUSTOMER PART NUMBER: 42558-144		PRODUCT DESCRIPTION: Drawn Seamless Tube/Pipe	
KAISER ORDER NUMBER: 223623	LINE ITEM: 001	SHIP DATE: 07/25/2017	KAISER LOT NUMBER: F00245907	ALLOY: 6061	TEMPER: T6
WEIGHT SHIPPED: 237.000 LB	QUANTITY: 147.000 PCS	B/L NUMBER: 226200	DIAM/DAF/THKNS: 	WIDTH: 	LENGTH: 12.000 FT
SHIP TO: TW METALS INC 27 ENGLEHARD DRIVE EXIT 8A OFF NJ TPK MONROE TWP, NJ 08831 USA			SOLD TO: TW METALS INC 760 CONSTITUTION DRIVE SUITE 204 EXTON, PA 19341 USA		

Actual Physical Properties

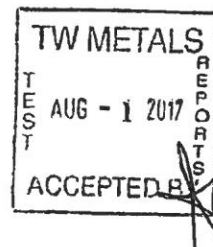
REFERENCE	DASH#	SAMPLE#	UTS (KSI)	YTS (KSI)	ELONG%	HARDNESS	CON% IACS	BEND
F00245907	0001	1	47.5	41.1	20.0	N/A	N/A	N/A

Chemical Composition (wt%), Aluminum Remainder

LIMITS	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Bi	Zr	Ea	Tot
Maximum	0.80	0.70	0.40	0.15	1.20	0.35	0.25	0.15	NA	NA	NA	0.05	0.15
Minimum	0.40	0.00	0.15	0.00	0.80	0.04	0.00	0.00	NA	NA	NA	0.00	0.00
D20417	.57	.25	.20	.04	.98	.08	.04	.03	.00	.00	.00	.01	.02

Applicable Requirements:

Description: OD: 0.6250"; Wall: 0.0650"; Round @
AMS-WW-T-700/6C ASTM B210-12 WW-T-700/6F AMS4082P
WE TAKE EXCEPTION TO PARA. 5.2.1., Per AMS4082P, WAS NOT OILED.
This Product Complies to FAR BAA, DFARS BAA, FAR TAA
COMPLIES TO DIN EN 10204 JAN 2005
No Weld Repair. Mercury Free.



Miscellaneous Notes

MANUFACTURED IN USA MELTED IN USA
MATERIAL COMPLIES WITH FAR BAA (FAR 52.225-1, BUY AMERICAN ACT- SUPPLIES), DFARS BAA
(DFARS 252.225-7001 BUY AMERICAN ACT & BAL OF PAYMENTS PROG), AND FAR TAA (FAR 52.225-5
TRADE AGREEMENTS).

Plant Serial: 00025661
Kaiser Order Number: 223623
Line Item: 001

KAISER
ALUMINUM
FABRICATED PRODUCTS

Best in Class

CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

KAISER ALUMINUM
FABRICATED PRODUCTS, LLC
6573 W. WILLIS ROAD
CHANDLER, AZ 85226

CERTIFICATION

Kaiser Aluminum Fabricated Products, LLC ('Kaiser') hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with the applicable specifications forming a part of the description set forth in Kaiser's sales acknowledgement form. Any warranty is limited to that shown on Kaiser's general terms & conditions of sale. Test reports are on file subject to examination.

Hans Kattentidt, Quality Manager



Abnahmeprüfzeugnis 3.1 - DIN EN 10204:2005



Inspection Certificate 3.1 - DIN EN 10204:2005 / Certificat de Reception 3.1- DIN EN 10204:2005

Kunde: TW Metals (PA)

Zeugnisnummer: 1117/17

Client:

Cert No. / No. du certificat:

760 Constitution Drive P.O. Box 644
19341 - 06-EXTON, PA USA

Bestellnummer: M 49371766

Order No. / No. de commande

Produkt: Rohre nahtlos gepresst und gezogen

ALUnna Auftragsbest.-Nr.: 65598/100

Product / Produit: Tubes seamless extruded and drawn

ALUnna Conf.-No. / conf. de commande:

Spezifikation: AMS - WW - T - 700/6C; AMS 4082P; ASTM B 210-12; WW-T-700/6F; -

Specification:

Werkstoff:

Zustand: T 6

Alloy/Alliage:

Temper/Etat

Abmessung

2,000 INCH x 1,750 INCH x 0,125 INCH x 12,000 FEET

Size / Dimension

44622

Kennzeichnung

ALUnna - CERT. NO. 1117/17 - WW-T-700/6(F) - AMS-WW-T-700/6 (C) - AMS4082 (P) - ASTM B210 (12) - 2.000" OD X 0.125"

Marking/Marquage:

WALL - 6061-T6 - CAST NO. 6788-1 - HEAT LOT NO. 1403313 - ALUNNA ORDER CONF. NO. 65598/100 - CPB 300

Lieferung

pcs.

lbs

Country of Manufacture: Germany

Delivered Material / Matériel délivré:

57

595

1. Chemische Analyse

Chemical Analysis / analyse chimique

	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Zr	Bi	Sn	Ni	Na
Charge/ min.	0,40		0,15		0,8	0,04								
Cast No. max.	0,8	0,7	0,40	0,15	1,2	0,35	0,25	0,15						
6788-1/17	0,681	0,343	0,212	0,114	0,935	0,255	0,034	0,033	0,001	0,0329	0,0085	0,0008	0,0070	0,0001

Hydrogen content: 0,14

ccm/100 g Al Elements without indication < 0,01 %

country of melt manufacturer: Germany

Products are in accordance with applicable RoHS

FAR BAA:	Cannot certify compliance
DFARS BAA:	Complies
FAR TAA:	Cannot certify compliance



Ergebnis der Prüfungen:

Es wird bestätigt, daß das Material geprüft wurde und den Vereinbarungen bei der Bestellannahme entspricht

We confirm that the material has been tested and applies to the agreements made on receipt of the order

Test results:

Nous confirmons que le matériel a été contrôlée et correspond avec les conventions faites à la réception de la commande

Results:

Certified acc. DIN EN ISO 9001:2008 and DIN EN 9100:2009

released by

valid until 2019-11-10

Hollmann

TÜV Nord - Cert.- Reg. No.: 44 100 131576 and 44 117 131576

Aluminiumwerk Unna AG, Uelzener Weg 36, 59425 Unna, Germany

27.06.2017

Electronically Generated Certificate - Valid without signature

Abnahmeprüfzeugnis 3.1 - DIN EN 10204:2005



Inspection Certificate 3.1 - DIN EN 10204:2005 / Certificat de Reception 3.1- DIN EN 10204:2005

Kunde: TW Metals (PA)
Client: 760 Constitution Drive P.O. Box 644
 19341 - 06-EXTON, PA USA

Zeugnisnummer: 1117/17
Cert No. / No. du certificat:
Bestellnummer: M 49371766
Order No. / No. de commande
ALUnna Auftragsbest.-Nr: 65598/100
ALUnna Order Conf.No.:

Kennzeichnung ALUnna - CERT. NO. 1117/17 - WW-T-700/6(F) - AMS-WW-T-700/6 (C) - AMS4082 (P) - ASTM B210 (12) - 2.000" OD X 0.125"
Marking/Marquage: WALL - 6061-T6 -CAST NO. 6788-1 - HEAT LOT NO. 1403313 - ALUNNA ORDER CONF. NO. 65598/100 - CPB 300

Lieferung pcs. lbs **Country of Manufacture: Germany**
Delivered Material / Matériel délivré: 57 595

2. Mechanische Eigenschaften

Mechanical Properties / Valeurs Mécaniques

Anforderungen Requirements	tensile (Rm) ksi	yield (Rp0,2) ksi	elongation 2" %	elongation A %	Hardness HB	Cast/Heat/ pcs.
	42,0	35,0	10,0			
1	46,8	38,2	17,0			1403313
2	46,7	38,3	17,4			

Ergebnis der Prüfungen:

Es wird bestätigt, daß das Material geprüft wurde und den Vereinbarungen bei der Bestellannahme entspricht
 We confirm that the material has been tested and applies to the agreements made on receipt of the order

Test results:

Nous confirmons que le materiel a été controlée et correspond avec les conventions faites à la réception de la commande

Resultats:

Certified acc. DIN EN ISO 9001:2008 and DIN EN 9100:2009
 valid until 2019-11-10

released by

27.06.2017

TÜV Nord - Cert.- Reg. No.: 44 100 131576 and 44 117 131576
 Aluminiumwerk Unna AG, Uelzener Weg 36, 59425 Unna, Germany

Hollmann

Electronically Generated Certificate - Valid without signature

Benteler Steel/Tube GmbH
Postfach 1340
33043 Paderborn
Deutschland
Tel.: +49 5254 81-0 Fax: +49 5254 13658

BENTELER

Steel/Tube

ABNAHMEPRÜFZEUGNIS EN 10204-3.1

INSPECTION CERTIFICATE EN 10204-3.1
CERTIFICAT DE RECEPTION EN 10204-3.1

Dokument-Nr.:
Document No.:
No. du document:

41-1013940/001/Z

Prüf-Nr.:
Inspection No.:
No. du certificat:

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Pos.	Stück	Maße	Gesamtlänge	Gewicht	Schmelzen-Nr.	Prüfdruck	Rohr-Nr.-Gruppe	Vielfachlängen
Item	Number	Dimensions	Length total	Weight	Heat No.	Test pressure	Tube number group	Multiple lengths
Poste	Nombre	Dimensions	Longueur totale	Poids	No. de coulées	Pression d'épreuve	Série de no. des tubes	Longueurs multiples
0008	120	0,750" O.D. * 0,049" WT 20 FT - 24 FT	2874,02	1049	602196			
0008	120	0,750" O.D. * 0,049" WT 20 FT - 24 FT	2877,95	1054	603839			

Schmelzenanalyse [%] / Heat analysis [%] / Analyse sur coulée [%]

Pos.	Schmelzen-Nr.	C	SI	MN	P	S	CR	MO	NI	CU
Item	Heat No.									
Poste	No. de coulées									
0008	602196	0,320	0,260	0,55	0,006	0,001	0,89	0,18	0,09	0,12
0008	603839	0,320	0,270	0,54	0,008	0,003	0,88	0,17	0,10	0,12

Produktanlyse [%] / Product analysis [%] / Analyse sur produit [%]

Pos.	Schmelzen-Nr.	C	SI	MN	P	S	CR	MO	NI	CU
Item	Heat No.									
Poste	No. de coulées									
0008	602196	0,310	0,280	0,56	0,009	0,001	0,89	0,19	0,09	0,17
0008	603839	0,320	0,270	0,54	0,009	0,003	0,88	0,17	0,09	0,11

Prüfergebnisse / Test results / Résultats des essais

Die Röhre wurden zerstörungsfrei geprüft: The tubes are non destructive tested: Les tubes ont passé un essai non destructif:	ET-test: acc. to ASTM-A 450; ET - Test method: acc. to ASTM-E 309; for imperfections; ET-test: ET with rotating pancake coils; according to EN 10246-3; imperfections; Notch depth: 0,30 mm; notch width < = notch depth; notch length min. 2 x transducer width (max. 50 mm)	PASSED
--	---	--------

Augensichtkontrolle: Visual inspection: Examen visuel:	Materiälvorwechslungsprüfung: Material conformity test: Vérification de la nuance:	PASSED	Maßkontrolle: Dimensions examination: Vérification des dimensions:	PASSED
--	--	--------	--	--------



AB

Benteler Steel/Tube GmbH
Postfach 13 40
33043 Paderborn
Deutschland
Tel.: +49 5254 81-0 Fax: +49 5254 13885

BENTELER

Steel/Tube

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Prüf-Nr.:
Inspection No.:
No. du certificat:

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Dokument-Nr.:
Document No.:
No. du document:

ABNAHMEPRÜFZEUGNIS EN 10204-3.1

INSPECTION CERTIFICATE EN 10204-3.1

CERTIFICAT DE RECEPTION EN 10204-3.1

Ergebnisse der mechanischen Prüfung / Results of mechanical testing / Résultats des essais mécaniques

Die Probenahme erfolgte an Vielfachlängert.

The sampling was carried out on multiple lengths.

L'échantillonnage était réalisé aux longueurs multiples.

Zugversuch längs bei RT, Vollprobe / Tensile test longitudinal at RT, Full section test specimen / Essai de traction longitudinale à TA, Eprouvette a section complete

Pos.	Proben-Nr.	Schmelzen-Nr.	Probenabmessungen	Streckgrenze	Zugfestigkeit	Dehnung
Item	Specimen No.	Heat No.	Specimen dimensions	Yield strength	Tensile strength	Elongation
Poste	No. de l'éprouv.	No. de coulée	Dimensions de l'éprouv.	Limite élastique	Résistance à la traction	Allongement
Anforderungen			mm	Rp 0,2 %	Rm	A2 ^m
Requirements				KSI	KSI	%
Exigences				MIN 75	MIN 95	MIN 12,00
0008	000001	602196	19,05 X	1,25	130	18,00
0008	000002	602196	19,05 X	1,25	131	18,00
0008	000003	602196	19,05 X	1,25	130	16,00
0008	000001	603839	19,05 X	1,25	130	18,00
0008	000002	603839	19,05 X	1,25	131	18,00
0008	000003	603839	19,05 X	1,25	130	16,00

Randentkohlung / Surface decarburization / Décarburation superficielle

Pos. / Item / Poste: 0008

acc. to AMS-6360, partial decarburization: outside max. 0.009 in, partial decarburization inside max. 0.009 in, partial decarburization outside and inside max. 0.012 in, partial decarburization outside and inside max. 0.305 mm, without total decarburization; partial decarb. out. max.: 0,229 mm; partial decarb. ins. max.: 0,229 mm

Vermerk / Remark / Remarque

Pos. / Item / Poste: 0008

Certificate remarks: The steel grade corresponds to MIL-T-6736B, AMS 6360M, material free from mercury contamination, FAR BAA: 52.226-1 CANNGT COMPLY, DFARS BAA: 252.226-7001 CAN COMPLY, FAR TAA: 52.226-5 CAN COMPLY, No weld repair has been carried out, Country of origin of the material and heat: Germany, Aircraft quality steel acc. to AMS 2301K; see appendix page 1 of 1

Pos. / Item / Poste: 0008

Macroscopic examination: acc. to ASTM-E 381

Pos. / Item / Poste: 0008

Magnetic particle inspection: acc. to AMS 2301K/ASTM-E 1444, on prematerial



AKS

AKS

Benteler Steel/Tube GmbH
Postfach 13 40
33043 Paderborn
Deutschland
Tel.: +49.5254.81-0 Fax: +49.5254.13866

BENTELER 

Steel/Tube

ABNAHMEPRÜFZEUGNIS EN 10204-3.1

INSPECTION CERTIFICATE EN 10204-3.1
CERTIFICAT DE RECEPTION EN 10204-3.1

Pos. / Item / Poste: 0008

Grain size: acc. to ASTM-E 112; Grain size and finer: 5; Grain size: Longitudinal structure: micrography, on prematerial

41-1013940/001/Z

Prüf-Nr.:
Inspection No.:
No. du certificat:

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Dokument-Nr.:
Document No.:
No. du document:

Verkäufer(in) / Sales Personnel / Personne chargée : Mr Schwarz, Tel.: 05254 81-204311, Fax: 204391

Paderborn Schloss Neuhaus, 30.06.2017, TEL.: 05254.81-201767 FAX: 05254.81-201752

Abnahmebeauftragter
Inspection representative

Contrôleur
I. A. THOMAS GOLLAN / TEM

Es wird bestätigt, daß die gelieferten Erzeugnisse den techn. Lieferbedingungen des Auftrages entsprechen. Dieses Dokument wurde mittels EDV erstellt und ist ohne Unterschrift rechtskräftig.
We certify that the supplied products comply with the order specification. This document was prepared by means of electronic data processing and is valid without signature.
Nous attestons que les produits livrés sont conformes aux stipulations de la commande. Ce document a été établi par traitement électronique de l'information et est valide sans signature.



AK

Benteler SteelTube GmbH
Reckenzstraße 1
33104 Paderborn
Germany
Tel: 49 5254 81-0 Fax: 49 5254 13966

BENTELER
Steel/Tube

Abnahmeprüzugs EN 10204-3.1 / Anhang
Inspection Certificate EN 10204.3.1 / appendix
Certificat de réception EN 10204-3.1 / appendice

Dokument-Nr.
Document No.:
No. de document

41-1013940/001/Z

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Page: 1 of 1
Page: de

Halbzeuguntersuchung: Stahlsorte 4130 / Semi finished product examination: grade 4130 / Produit semi-fini: nuance 4130

Schmelzen-Nr. Heat No. Coulée No.	Position Item Poste	Korngröße Grain size Grosseur de grain (ASTM-E 112)	Härtebarkeit (min. Anforderungen) Hardenability (min. requirements) Trempeabilité (exigence min.) (ASTM-A 255)		Magnetpulverprüfung Magnetic particle inspection Essai à la poudre magnétique (AMS 2301 K/ASTM- 1444)	Makroätzung Macrostructure test Essai de macrostructure (ASTM-E 381)		
			J(5/16") min. 35 HRC	J(8/16") min. 28 HRC		max. S.2.	max. R.1	max. C.2
602196	008	9	44	34	0,020	S 2	R 1	C 2
Decarburization Depth		Outside 0,000 mm	Inside 0,000 mm					
603839	008	9	38	31	0,020	S 2	R 1	C 2
Decarburization Depth		Outside 0,000 mm	Inside 0,000 mm					

Der Stahl ist frei von Quecksilberverunreinigungen. / The steel is free of mercury contamination. / L'acier est libre des contaminations de mercure.

Paderborn Schloß Neuhaus, 30.06.2017
Tel.: (0)5254.81-201760 Fax: (0)5254.81-201752

Abnahmebeauftragter
Inspection representative
Contrôleur

Thomas Göllan



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KAISER ALUMINUM FABRICATED PRODUCTS

CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

KAISER ALUMINUM
FABRICATED PRODUCTS, LLC
6573 W. WILLIS ROAD
CHANDLER, AZ 85226

CUSTOMER PO NUMBER: M49378297-1		CUSTOMER PART NUMBER: 42276		PRODUCT DESCRIPTION: Drawn Seamless Tube/Pipe	
KAISER ORDER NUMBER: 224471	LINE ITEM: 001	SHIP DATE: 11/07/2017	KAISER LOT NUMBER: F00254239	ALLOY: 6061	TEMPER: T6
WEIGHT SHIPPED: 463.000 LB	QUANTITY: 406.000 PCS	B/L NUMBER: 227417	DIAM/DAF/THKNS: 	WIDTH: 	LENGTH: 12.000 FT
SHIP TO: TW METALS INC 235 WEST TUBEWAY DRIVE CAROL STREAM, IL 60188 USA			SOLD TO: TW METALS INC 760 CONSTITUTION DRIVE SUITE 204 EXTON, PA 19341 USA		

Actual Physical Properties

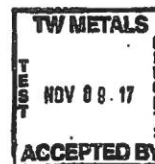
REFERENCE	DASH#	SAMPLE#	UTS (KSI)	YTS (KSI)	ELONG%	HARDNESS	CON%IACS	BEND
F00254239	0001	1	46.6	40.1	18.0	N/A	N/A	N/A
F00254239	0002	1	44.8	38.8	17.0	N/A	N/A	N/A

Chemical Composition (wt%), Aluminum Remainder

LIMITS	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Bi	Zr	Ea	Tot
Maximum	0.80	0.70	0.40	0.15	1.20	0.35	0.25	0.15	NA	NA	NA	0.05	0.15
Minimum	0.40	0.00	0.15	0.00	0.80	0.04	0.00	0.00	NA	NA	NA	0.00	0.00
D0674A	.60	.26	.21	.05	.97	.09	.04	.03	.00	.00	.00	.01	.02

Applicable Requirements:

Description: OD: 0.5000"; Wall: 0.0580"; Round @
AMS4082P AMS-WW-T-700/6C ASTM B210-12 WW-T-700/6F
WE TAKE EXCEPTION TO PARA. 5.2.1., Per AMS4082P, WAS NOT OILED.
This Product Complies to FAR BAA, DFARS BAA, FAR TAA
COMPLIES TO DIN EN 10204 JAN 2005
No Weld Repair. Mercury Free.



Miscellaneous Notes

MANUFACTURED IN USA MELTED IN USA
MATERIAL COMPLIES WITH FAR BAA (FAR 52.225-1, BUY AMERICAN ACT- SUPPLIES), DFARS BAA
(DFARS 252.225-7001 BUY AMERICAN ACT & BAL OF PAYMENTS PROG), AND FAR TAA (FAR 52.225-5
TRADE AGREEMENTS).

Plant Serial: 00026618
Kaiser Order Number: 224471
Line Item: 001

NC

KAISER
ALUMINUM
FABRICATED PRODUCTS

KAISER ALUMINUM
FABRICATED PRODUCTS, LLC
6573 W. WILLIS ROAD
CHANDLER, AZ 85226

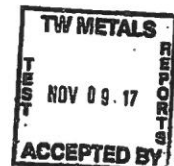
CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

CERTIFICATION

Kaiser Aluminum Fabricated Products, LLC ('Kaiser') hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with the applicable specifications forming a part of the description set forth in Kaiser's sales acknowledgement form. Any warranty is limited to that shown on Kaiser's general terms & conditions of sale. Test reports are on file subject to examination.

Hans Kattentidt, Quality Manager



W

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: 6061 T6 to 5004 1058

PO / BATCH NO.: 039038 / 5044574

DATE: FEB 20 2018

MATERIAL CERT REC'D: yes
 QUANTITY RECEIVED: 60'
 QUANTITY INSPECTED: 60'
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 1058
 THICKNESS RECEIVED: 1058
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y (N)	
CORRECT FINISH	(Y) N	
CORROSION	Y (N)	
CORRECT GRAIN DIRECTION	(Y) N	
CORRECT MATERIAL PER M-DRAWING	(Y) N	<u>WW-T-700/6</u>
CORRECT THICKNESS	(Y) N	
PHOTO REQUIRED	Y (N)	
CORRECT REF # TO LINK CERT	(Y) N	<u>Heat # F00254239 0002</u>
CORRECT MATERIAL IDENTIFICATION	(Y) N	
CORRECT M# ON THE MATERIAL	(Y) N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y (N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y (N)	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION INSPECTED BY: <u>DAS 11</u> DATE: <u>9-89 FEB 20 2018</u>	ENGINEERING SIGNOFF (if required) SIGNED OFF BY: _____ DATE: _____
---	---

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

PURCHASE MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING

SPECIFICATION:

WW-T-700/8
OR QQ-A-200/8 OR QQ-A-225/8
OR AMS 4080 OR AMS 4082 OR AMS 4083
OR ASTM B210 OR ASTM B241

PART NUMBER:

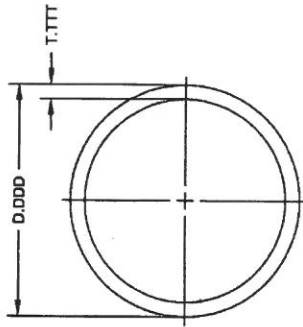
M6061T6T1D.DDD|W.T.TTT
OD | WALL

WHERE "D.DDD" = OD IN INCHES
"T.TTT" = WALL THICKNESS

EG. 3/8" OD X 0.058 WALL = M6061T6T0.375W0.058

MATERIAL TOLERANCE:

PER ANSI H35.2



RELEASED
R 2013-07-02

C	COMPLETE REFORMAT, ADDED T6510 & T6511. ADDED AMS 4083, ASTM B210 & ASTM B241 ADDED MATERIAL TOLERANCE	AJS	13.08.12
B	ADD QQ-A-200/8 & QQ-A-225/8	CP	04.01.23
A	NEW ISSUE	DS	01.08.21
REV.	DESCRIPTION	BY	DATE
DESIGN	AJS		
DRAWN	AJS		
CHECKED	W		
MFG. APPR.	M6061T6T		
APPROVED	W		
DE APPR.	W		
DATE	13.06.12		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO. REV. C			
M6061T6T SHEET 1 OF 1			
TITLE SCALE			
6061-T6 TUBING NTS			
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MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M4130NT0.2504.049

PO / BATCH NO.: 039038/5044573

DATE: FEB 20 2018

MATERIAL CERT REC'D: yes
 QUANTITY RECEIVED: 24
 QUANTITY INSPECTED: 24
 QUANTITY REJECTED: 0

THICKNESS ORDERED: W.049
 THICKNESS RECEIVED: W.049
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	(N)	
CORRECT FINISH	(Y)	N	
CORROSION	Y	(N)	
CORRECT GRAIN DIRECTION	(Y)	N	
CORRECT MATERIAL PER M-DRAWING	(Y)	N	<u>Ams 7636</u>
CORRECT THICKNESS	(Y)	N	
PHOTO REQUIRED	Y	(N)	
CORRECT REF # TO LINK CERT	(Y)	N	<u>Heat # 602196</u>
CORRECT MATERIAL IDENTIFICATION	(Y)	N	
CORRECT M# ON THE MATERIAL	(Y)	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	(N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	(N)	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK.
 RECORD RESULTS BELOW

	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS 11</u> DATE: <u>9 FEB 20 2018</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: AISI 4130N SEAMLESS STEEL TUBING

SPECIFICATION: MIL-T-6736 OR AMS 6371, 6360, 6361, 6362, 6373, 6374

PART NUMBER: M4130N(TD.DDD(W.TTT) WHERE: "D.DDD" = OUTER DIAMETER (IN INCHES)
AND ".TTT" = WALL THICKNESS (IN INCHES)

DIA. WALL

EG. 3/4" TUBING WITH .035" WALL = M4130NT0.750W.035

RELEASE
R 2012-04-16

B	REFORMAT DWG TO ACCOMMODATE ADDITIONAL TUBE DIAMETERS AND WALL THICKNESS		RP	12.04.02
A	NEW ISSUE		JB	01.05.16
REV.	DESCRIPTION		BY	DATE
DESIGN	JB			
DRAWN	RP			
CHECKED	AP			
MFG. APPR.				
APPROVED				
DE APPR.				
DATE	12.04.02			
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA				
DRAWING NO. M4130N-T				
REV. B				
SHEET 1 OF 1				
TITLE STEEL TUBING				
SCALE NTS				
DATE 12.04.02				
COPYRIGHT © 2001 BY DART AEROSPACE LTD THIS DRAWING IS THE PROPERTY OF DART AEROSPACE LTD AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS WITHOUT PERMISSION FROM DART AEROSPACE LTD				

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M6061H6T2.00W0.125

PO / BATCH NO.: 039038/5044572

DATE: FEB 20 2018

MATERIAL CERT REC'D: yes
 QUANTITY RECEIVED: 12
 QUANTITY INSPECTED: 12
 QUANTITY REJECTED: 0

THICKNESS ORDERED: W0.125
 THICKNESS RECEIVED: W0.125
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	(N)	
CORRECT FINISH	(Y)	N	
CORROSION	Y	(N)	
CORRECT GRAIN DIRECTION	(Y)	N	
CORRECT MATERIAL PER M-DRAWING	(Y)	N	<u>WW-T-700/K</u>
CORRECT THICKNESS	(Y)	N	
PHOTO REQUIRED	Y	(N)	
CORRECT REF # TO LINK CERT	(Y)	N	<u>Heat# 1403313</u>
CORRECT MATERIAL IDENTIFICATION	(Y)	N	
CORRECT M# ON THE MATERIAL	(Y)	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	(N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	(N)	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK.
 RECORD RESULTS BELOW

	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: <u>DAS</u> <u>11</u> DATE: <u>9-29</u> <u>FEB 20 2018</u>	SIGNED OFF BY: _____ DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

PURCHASE MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING

SPECIFICATION:

WM-T-7008
OR QQ-A-200/8 OR QQ-A-225/8
OR AMS 4080 OR AMS 4082 OR AMS 4083
OR ASTM B210 OR ASTM B241

PART NUMBER:

M6061T6T/D.DDD/W/T.TTT
OD | WALL

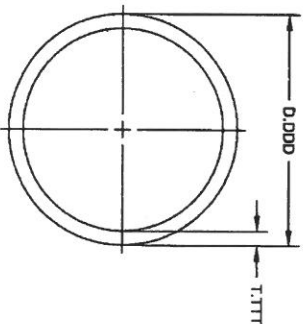
WHERE "D.DDD" = OD IN INCHES

"T.TTT" = WALL THICKNESS

EG. 3.0" OD X 0.058 WALL = M6061T6T0.375W0.058

MATERIAL TOLERANCE:

PER ANSI H35.2



RELEASED
2013-07-02

C	COMPLETE REFORMAT ADDED T6510 & T6511. ADDED AMS 4083, ASTM B210 & ASTM B241	AMS	13.06.12
B	ADDED MATERIAL TOLERANCE	CP	04.01.23
A	NEW ISSUE	DS	01.08.21
REV.	DESCRIPTION	BY	DATE
DESIGN	AMS		
DRAWN	AMS		
CHECKED	AMS		
MFG. APPR.	M6061T6T		
APPROVED	TITLE		
DE APPR.	6061-T6 TUBING		
DATE	13.06.12		

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MATERIAL RECEIPT INSPECTION FORM

MATERIAL: 7606IT6to.625W.065

PO / BATCH NO.: 039038/SC044571

DATE: FEB 20 2018

MATERIAL CERT REC'D: yes
 QUANTITY RECEIVED: 96
 QUANTITY INSPECTED: 96
 QUANTITY REJECTED: 0

THICKNESS ORDERED: W.065
 THICKNESS RECEIVED: W.065
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	(N)	
CORRECT FINISH	(Y)	N	
CORROSION	Y	(N)	
CORRECT GRAIN DIRECTION	(Y)	N	
CORRECT MATERIAL PER M-DRAWING	(Y)	N	AMS-WW-T-700/6C
CORRECT THICKNESS	(Y)	N	
PHOTO REQUIRED	Y	(N)	
CORRECT REF # TO LINK CERT	(Y)	N	Heat # 10012459070001
CORRECT MATERIAL IDENTIFICATION	(Y)	N	
CORRECT M# ON THE MATERIAL	(Y)	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	(N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	(N)	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK.
 RECORD RESULTS BELOW

	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS 11</u> DATE: <u>9-89 FEB 20 2018</u>	SIGNED OFF BY: _____ DATE: _____	

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

PURCHASE MATERIAL: 6061-T6/62/76510/76511 SEAMLESS TUBING

SPECIFICATION:

WM-T-700/6
OR QQ-A-200/6 OR QQ-A-225/6
OR AMS 4080 OR AMS 4082 OR AMS 4083
OR ASTM B210 OR ASTM B241

PART NUMBER:

M6061T6T1P.DDD/W.T.TTT

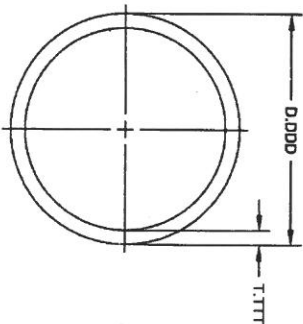
WHERE "D.DDD" = OD IN INCHES

"T.TTT" = WALL THICKNESS

EG. 3/8" OD X 0.059 WALL = M6061T6T0.375W0.059

MATERIAL TOLERANCE:

PER ANSI H35.2



RELEASED
2013-07-02

C	COMPLETE REFORMAT ADDED T6510 & T6511. ADDED AMS 4083, ASTM B210 & ASTM B241	AMS	13.06.12
B	ADDED MATERIAL TOLERANCE	CP	04.01.23
A	NEW ISSUE	DS	01.08.21
REV.	DESCRIPTION	BY	DATE
DRAWN	AMS		
CHECKED	AMS		
MFG. APPR.	M6061T6T		
APPROVED			
DE APPR.			
DATE	13.06.12		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO. M6061T6T			
TITLE 6061-T6 TUBING			
REV. C SHEET 1 OF 1			
SCALE NTS			

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MATERIAL RECEIPT INSPECTION FORM

MATERIAL: 6061-T6 tube 5.00x.125W

PO / BATCH NO. 039038/5044570

DATE: FEB 22 2018

MATERIAL CERT REC'D: yes
 QUANTITY RECEIVED: 12'
 QUANTITY INSPECTED: 12'
 QUANTITY REJECTED: 0

THICKNESS ORDERED: .125W
 THICKNESS RECEIVED: .125W
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y (N)	
CORRECT FINISH	(Y) N	
CORROSION	Y (N)	
CORRECT GRAIN DIRECTION	(Y) N	
CORRECT MATERIAL PER M-DRAWING	(Y) N	AMS-QQ-A-200/8
CORRECT THICKNESS	(Y) N	
PHOTO REQUIRED	Y (N)	
CORRECT REF # TO LINK CERT	(Y) N	test # 51511059
CORRECT MATERIAL IDENTIFICATION	(Y) N	
CORRECT M# ON THE MATERIAL	(Y) N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y (N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y (N)	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK.
 RECORD RESULTS BELOW

	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS</u> <u>11</u> DATE: <u>9-89 FEB 22 2018</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

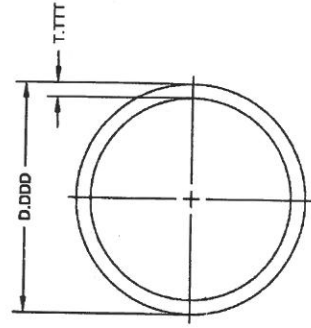
PURCHASE MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING

SPECIFICATION: $\triangle C$ WWT-700/8
OR QQ-A-200/8 OR QQ-A-225/8
OR AMS 4080 OR AMS 4082 OR AMS 4083
OR ASTM B210 OR ASTM B241

PART NUMBER: M6061T6TDDDDWWT.TTT
OD | WALL

WHERE "D.DDD" = OD IN INCHES
"T.TTT" = WALL THICKNESS

EG. 3/8" OD X 0.058 WALL = M6061T6T0.375W0.058
MATERIAL TOLERANCE: PER ANSI H35.2 $\triangle C$



RELEASED
2013-07-02

C	COMPLETE REFORMAT. ADDED T6510 & T6511. ADDED AMS 4083, ASTM B210 & ASTM B241 ADDED MATERIAL TOLERANCE	AJS	13.08.12
B	ADD QQ-A-200/8 & QQ-A-225/8	CP	04.01.23
A	NEW ISSUE	DS	01.08.21
REV.	DESCRIPTION	BY	DATE
DESIGN	AJS		
DRAWN	AJS		
CHECKED	W		
MFG APPR.	W		
APPROVED			
DE APPR.			
DATE	13.06.12		

DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWING NO.	M6061T6T
TITLE	6061-T6 TUBING
SCALE	NTS
SHEET 1 OF 1	
REV. C	

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KAISER ALUMINUM

FABRICATED PRODUCTS

CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

KAISER ALUMINUM
FABRICATED PRODUCTS, LLC
2425 STEVENS DRIVE
RICHLAND, WA 99352

CUSTOMER PO NUMBER: M49377288-1		CUSTOMER PART NUMBER: 45542		PRODUCT DESCRIPTION: 5.0000 OD X 0.1250 WALL ESRT	
KAISER ORDER NUMBER: 322346	LINE ITEM: 001	SHIP DATE: 10/06/2017	KAISER LOT NUMBER: 51511-059	ALLOY: 6061	TEMPER: T6511
WEIGHT SHIPPED: 1134.000 LB	QUANTITY: 21.000 PCS	B/L NUMBER: 005489	DIAM/DAF/THKNS: 	WIDTH: 	LENGTH: 24.000 FT
SHIP TO: TW METALS INC 10404 GRANITE ST, BLDG O CHARLOTTE, NC 28241-0423 USA			SOLD TO: TW METALS INC THE ARBORETUM 760 CONSTITUTION AVENUE EXTON, PA 19341 USA		

TW METALS
OCT 12 2017
ACCEPTED BY
REPORTS

Actual Physical Properties

REFERENCE	DASH#	SAMPLE#	UTS (KSI)	YTS (KSI)	%Elong in 2	HARDNESS	CONDUCT.	BEND
51511-059	0001	0002	46.2	43.5	11.1	N/A	N/A	N/A

Chemical Composition (wt%), Aluminum Remainder

LIMITS	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Bi	Zr	Ea	Tot
Maximum	0.80	0.70	0.40	0.15	1.20	0.35	0.25	0.15	NA	NA	NA	0.05	.15
Minimum	0.40	0.00	0.15	0.00	0.80	0.04	0.00	0.00	NA	NA	NA	0.00	.0
A20576	.60	.28	.23	.05	.99	.10	.05	.03	.00	.00	.00	.01	.02
038990	.61	.29	.22	.06	1.00	.06	.01	.02	.00	.00	.00	.00	.00

Applicable Requirements:

AMS-QQ-A-200/8A, TYPE 1 ASTM-B241-16 ASME-SB241 2015 SECT II Also conforms to EN 10204
3.1 STENCIL WITH AMS-QQ-A-200/8 ASTM-B221-14

Miscellaneous Notes

MANUFACTURED IN USA MELTED IN USA
MERCURY IS NOT A NORMAL BACKGROUND ELEMENT IN ALUMINUM ALLOYS. NEITHER MERCURY NOR ANY OF ITS COMPOUNDS ARE UTILITZED BY KAISER ALUMINUM IN THE MANUFACTURE OF THIS MATERIAL. MATERIAL COMPLIES WITH FAR BAA (FAR 52.225-1, BUY AMERICAN ACT- SUPPLIES), DFARS BAA (DFARS 252.225-7001 BUY AMERICAN ACT & BAL OF PAYMENTS PROG), AND FAR TAA (FAR 52.225-5 TRADE AGREEMENTS).

Plant Serial: 00016930
Kaiser Order Number: 322346
Line Item: 001

49377288

KAISER ALUMINUM

FABRICATED PRODUCTS

KAISER ALUMINUM
FABRICATED PRODUCTS, LLC
2425 STEVENS DRIVE
RICHLAND, WA 99352

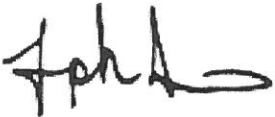
CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

CERTIFICATION

Kaiser Aluminum Fabricated Products, LLC hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with applicable specifications forming a part of the description set forth in Kaiser's sales acknowledgement form. Any warranty is limited to that shown on Kaiser's general terms and conditions of sale. Test reports are on file, subject to examination.

JOSEPH AMES, QUALITY MANAGER




TW METALS

TEST

OCT 12 2017

REPORTS

ACCEPTED BY 

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M60616+1.0004.188
 DATE: FEB 22 2018

PO / BATCH NO: 039038/5044569

MATERIAL CERT REC'D: Yes
 QUANTITY RECEIVED: 24'
 QUANTITY INSPECTED: 24'
 QUANTITY REJECTED: 0

THICKNESS ORDERED: .188
 THICKNESS RECEIVED: .188
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="checkbox"/> N	
CORRECT FINISH	Y <input checked="" type="checkbox"/> N	
CORROSION	Y <input checked="" type="checkbox"/> N	
CORRECT GRAIN DIRECTION	Y <input checked="" type="checkbox"/> N	
CORRECT MATERIAL PER M-DRAWING	Y <input checked="" type="checkbox"/> N	<u>Astm B2K</u>
CORRECT THICKNESS	Y <input checked="" type="checkbox"/> N	
PHOTO REQUIRED	Y <input checked="" type="checkbox"/> N	
CORRECT REF # TO LINK CERT	Y <input checked="" type="checkbox"/> N	<u>Heat # P002608730001</u>
CORRECT MATERIAL IDENTIFICATION	Y <input checked="" type="checkbox"/> N	
CORRECT M# ON THE MATERIAL	Y <input checked="" type="checkbox"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="checkbox"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="checkbox"/> N	

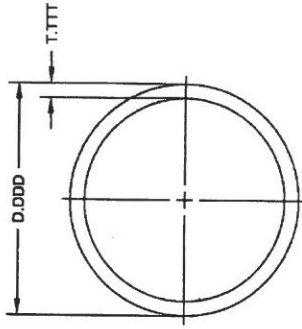
CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL	HRC	HRB	DUR A	DUR D	WEBSTER
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS</u> <u>11</u> DATE: <u>9-89 FEB 22 2018</u>	SIGNED OFF BY: _____ DATE: _____	

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

RELEASED
2013-07-02



PURCHASE MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING

SPECIFICATION: WW-T-700/8
OR QQ-A-200/8 OR QQ-A-225/8
OR AMS-4090 OR AMS 4082 OR AMS 4083
OR ASTM B210 OR ASTM B241

PART NUMBER: M6061T6T1D.DDD/W.T.TTT

WHERE "D.DDD" = OD IN INCHES
"T.TTT" = WALL THICKNESS
EG. 3/8" OD X 0.058 WALL = M6061T6T0.375W0.058

MATERIAL TOLERANCE: PER ANSI H35.2

C	COMPLETE REFORMAT, ADDED T6510 & T6511. ADDED AMS 4083, ASTM B210 & ASTM B241 ADDED MATERIAL TOLERANCE	AJS	13.06.12
B	ADD QQ-A-200/8 & QQ-A-225/8	QP	04.01.23
A	NEW ISSUE	DS	01.08.21
REV.	DESCRIPTION	BY	DATE
DESIGN	AJS		
DRAWN	AJS		
CHECKED			
MFG. APPR.	M6061T6T		
APPROVED			
DE APPR.			
DATE	13.06.12		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO. REV. C			
M6061T6T SHEET 1 OF 1			
TITLE SCALE			
6061-T6 TUBING NTS			
DATE 13.06.12			
COPYRIGHT © 2001 BY DART AEROSPACE LTD THIS DRAWING IS THE PROPERTY OF DART AEROSPACE LTD. IT IS TO BE USED FOR THE MANUFACTURE OF THE PARTS SPECIFIED HEREIN ONLY. ANY OTHER USE IS PROHIBITED WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE LTD.			

KAISER ALUMINUM FABRICATED PRODUCTS

KAISER ALUMINUM
FABRICATED PRODUCTS, LLC
6573 W. WILLIS ROAD
CHANDLER, AZ 85226

CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

CUSTOMER PO NUMBER: M49383412-1		CUSTOMER PART NUMBER: 43377		PRODUCT DESCRIPTION: Drawn Seamless Tube/Pipe	
KAISER ORDER NUMBER: 225209	LINE ITEM: 001	SHIP DATE: 01/31/2018		KAISER LOT NUMBER: F00260873	ALLOY: 6061
WEIGHT SHIPPED: 581.000 LB	QUANTITY: 86.000 PCS	B/L NUMBER: 228332		DIAM/DAF/THKNS: 	TEMPER: T6
SHIP TO: TW METALS INC 235 WEST TUBEWAY DRIVE CAROL STREAM, IL 60188 USA				SOLD TO: TW METALS INC 760 CONSTITUTION DRIVE SUITE 204 EXTON, PA 19341 USA	

Actual Physical Properties

REFERENCE	DASH#	SAMPLE#	UTS (KSI)	YTS (KSI)	ELONG%	HARDNESS	CON%IACS	BEND
F00260873	0001	001N	48.0	42.8	22.0	N/A	N/A	N/A
F00260873	0001	001S	48.3	44.0	22.0	N/A	N/A	N/A

Chemical Composition (wt%), Aluminum Remainder

LIMITS	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Bi	Zr	Ea	Tot
Maximum	0.80	0.70	0.40	0.15	1.20	0.35	0.25	0.15	NA	NA	NA	0.05	0.15
Minimum	0.40	0.00	0.15	0.00	0.80	0.04	0.00	0.00	NA	NA	NA	0.00	0.00
D20780	.57	.32	.22	.02	.93	.06	.03	.02	.00	.00	.00	.01	.02

Applicable Requirements:

Description: OD: 1.0000"; Wall: 0.1880"; Round @
AMS4082P AMS-WW-T-700/6C ASTM B210-12 WW-T-700/6F
WE TAKE EXCEPTION TO PARA. 5.2.1., Per AMS4082P, WAS NOT OILED.
This Product Complies to FAR BAA, DFARS BAA, FAR TAA
COMPLIES TO DIN EN 10204 JAN 2005
No Weld Repair. Mercury Free.



Miscellaneous Notes

MANUFACTURED IN USA MELTED IN USA
MATERIAL COMPLIES WITH FAR BAA (FAR 52.225-1, BUY AMERICAN ACT- SUPPLIES), DFARS BAA
(DFARS 252.225-7001 BUY AMERICAN ACT & BAL OF PAYMENTS PROG), AND FAR TAA (FAR 52.225-5
TRADE AGREEMENTS).

Plant Serial: 00027304
Kaiser Order Number: 225209
Line Item: 001

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KAISER
ALUMINUM
FABRICATED PRODUCTS

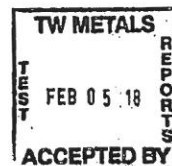
KAISER ALUMINUM
FABRICATED PRODUCTS, LLC
6573 W. WILLIS ROAD
CHANDLER, AZ 85226

CERTIFIED TEST REPORT
<http://Online.KaiserAluminum.com>

CERTIFICATION

Kaiser Aluminum Fabricated Products, LLC ('Kaiser') hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with the applicable specifications forming a part of the description set forth in Kaiser's sales acknowledgement form. Any warranty is limited to that shown on Kaiser's general terms & conditions of sale. Test reports are on file subject to examination.

Hans Kattentidt, Quality Manager



Plant Serial: 00027304
Kaiser Order Number: 225209
Line Item: 001

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MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M304TPO.750W-049

PO / BATCH NO.: 039038/5044568

DATE: FEB 16 2018

MATERIAL CERT REC'D: yes

THICKNESS ORDERED: W.049

QUANTITY RECEIVED: 120'

THICKNESS RECEIVED: W.049

QUANTITY INSPECTED: 120'

SHEET SIZE ORDERED: N/A

QUANTITY REJECTED: 0

SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	(N)	
CORRECT FINISH	(Y)	N	
CORROSION	Y	(N)	
CORRECT GRAIN DIRECTION	(Y)	N	
CORRECT MATERIAL PER M-DRAWING	(Y)	N	Astm A213
CORRECT THICKNESS	(Y)	N	
PHOTO REQUIRED	Y	(N)	
CORRECT REF # TO LINK CERT	(Y)	N	Heat # YX1508708
CORRECT MATERIAL IDENTIFICATION	(Y)	N	
CORRECT M# ON THE MATERIAL	(Y)	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	(N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	(N)	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: <u>DAS 11</u>		SIGNED OFF BY: _____	
DATE: <u>9-80 FEB 16 2018</u>		DATE: _____	

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: AISI 304/316 SS SEAMLESS ROUND TUBING
 SPECIFICATION: ASTM A213 OR ASME SA213 OR ASTM A289

WALL THICKNESS TOLERANCE PER ASTM A289 AS FOLLOWS:

OD (IN)	PERMISSIBLE OD TOL (IN)	PERMISSIBLE WALL TOL
UP TO 1/2	±0.005	±15%
1/2 TO 1 1/2, EXCL.	±0.005	±10%
1 1/2 TO 3 1/2, EXCL.	±0.010	±10%
3 1/2 TO 5 1/2, EXCL.	±0.015	±10%
5 1/2 TO 8, EXCL.	±0.030	±10%

PART NUMBER:

M304TRD.DDDW.TTT
 OD WALL

WHERE "D.DDD" = OUTSIDE DIAMETER IN INCHES
 AND "TTT" = WALL THICKNESS IN INCHES

EG. 0.375" OD X 0.065" WALL TUBING = M304TRD.375W.065

RELEASED
 08/10/20

B	REFORMAT DWG. ADD SPECS (ZN DB-1), REF PAR 08-020A	CP	08.10.20
A	NEW ISSUE	DS	01.06.08
REV	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	08.10.20		
DART AEROSPACE LTD HAWKESBURY, ONTARIO CANADA DRAWING NO. M304TR TITLE 304/316 ROUND TUBING REV. B SHEET 1 OF 1 SCALE NTS COPYRIGHT © 2001 BY DART AEROSPACE LTD. THIS DOCUMENT IS THE PROPERTY OF DART AEROSPACE LTD. AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE LTD.			